Annual Report of Operations for Year 2021

To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington

NPDES # for your Facility:
WAG-130023

Facility & Owner Information

Facility Name: House of Salmon	
Operator Name (Permittee): Lower Elwha Klallam Tribe	
Address: 700 Stratton Road Port Angeles, WA 98363	
Email: matt.beirne@elwha.org	Phone: 360-461-2516
Owner Name (if different from operator):	
Email:	Phone:

Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ■ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ■ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.

The QA portion that was included in the BMP as a subsection was removed and is now a standalone document. The BMP was modified to include details on structural maintenance, training requirements, and operational requirements.

EPA General Permit WAG130000 - Annual Report

Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): 43,454 Pounds of food fed to fish during the maximum month: 15,706

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

Species	Fish Produced	Receiving Water(s) to which Fish were Released	Month Released/ Spawned
Chum	82 lbs	Elwha River	April
Steelhead	14,829 lbs	Elwha River	April
Coho	28,541 lbs	Elwha River	April

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

Month	Total Fish (lbs)	Fish Feed (lbs)	Month	Total Fish (lbs)	Fish Feed (lbs)
January	27524.3	3,618	July	7054.0	1,563
February	31420.9	3,425	August	10131.0	1,242
March	43445.4	15,706	September	15023.0	1,341
April	46561.6	7,462	October	17788.0	2,122
May	3806.0	3,200	November	22853.00	4,759
June	4985.0	3,666	December	28936.00	3,402

Additional Comments:

Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed

Additional Comments:

Routine fish mortalities were disposed of daily in municipal waste.

Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish

Additional Comments:

No mass mortalities occurred.

Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

No non compliance events occurred

Inspections & Repairs for Production & Wastewater Treatment Systems

Date Inspected	Date Repaired	Description of System Inspected and/or Repaired
Daily		The facility is inspected daily

Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year.**
Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
☐ Yes ■ No	Azithromycin
☐ Yes ■ No	Chloramine-T: ***See additional reporting requirements on page 7***
☐ Yes ■ No	Chlorine
☐ Yes ■ No	Draxxin
☐ Yes ■ No	Erythromycin - injectable
☐ Yes ■ No	Erythromycin - medicated feed
☐ Yes ■ No	Florfenicol (Aquaflor)
☐ Yes ■ No	Formalin - 37% formaldehyde: ***See additional reporting requirements on page 7***
☐ Yes ■ No	Herbicide - describe:
☐ Yes ■ No	Hormone - describe:
☐ Yes ■ No	Hydrogen Peroxide: ***See additional reporting requirements on page 7***
■ Yes ☐ No	Iodine: ***See additional reporting requirements on page 7***
☐ Yes ■ No	Oxytetracycline
☐ Yes ■ No	Potassium Permanganate: ***See additional reporting requirements on page 7***
☐ Yes ■ No	Romet
☐ Yes ■ No	SLICE (emamectin benzoate)
■ Yes ☐ No	Sodium Chloride - salt
☐ Yes ■ No	Vibrio vaccine
☐ Yes ☐ No	Other:
☐ Yes ☐ No	Other:

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Ovadine (iodophor)		Generic Name:	
Reason for use: required egg disinfection			
■ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment (specify units): 75 ml	Total quantity of formulated product used in past year (specify units): 4.8 gallons	
Date(s) of treatment: See ovadine treatment dates attached			Total number of treatments in past year: 13
Maximum daily volume of treated water: 200 gallons	Treatment concentration (specify units): 75 ppm	Duration and frequency of treatment(s): 1 hour, once	
Method of application:	■ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ■ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Brand Name: Salt		Generic Name:	
Reason for use: bacterial pathogen, assist in osmoregulation			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment: 1500 lbs	Total quantity of formulated product used in past year (specify units): 22,500	
Date(s) of treatment: See salt treatment dates attached			Total number of treatments in past year: 27
Maximum daily volume of treated water: 507,171 gallons	Treatment concentration (specify units): 0.193 pounds/gpm	Duration and frequency of treatment(s): 12 hours daily as needed (27 treatments)	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	■ Raceways ☐ Incubation building	■ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	Iodine	
Tank Volume	757	Liters
Desired Static Bath Treatment Concentration	75 ppm	µg/L
Volume of Product Needed	18.4	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 2.4 ppm Active Ingredient: 0.24 ppm	Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	5,400,000 g/d	Specify Units
Maximum % of Facility Discharge Treated	0.400	% of Total Discharge

Flow-Through Treatments	Salt	
Tank Volume	1,919,642	Liters
Calculated Flow Rate	14,193	Liters/Minute
Duration of Treatment	720	Minutes
Desired Flow-Through Treatment Concentration of Product	0.19	µg/L
Amount of Product to Add Initially	1,500	Liters Product
Amount of Product to Add During Treatment	0	mL/Minute
Total Volume of Product Needed	1,500	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: 0.000269 lbs/gpm	Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	5,580,000 gallons	Specify Units
Maximum % of Facility Discharge Treated	48	% of Total Discharge

Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.
John Mahan, is no longer employed as the hatchery manager. Keith Lauderback is the interim Hatchery Manager until the position is filled. No other changes of note.

Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Matthew Beirne	Natural Resources Director
Printed name of person signing	Title
Matt M	1/19/2022
Applicant Signature	Date Signed

Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191

Washington Hatchery Annual Report

1200 Sixth Avenue, Suite 900

Seattle, WA 98101-3140

2021	Iodophor use dates
steelhead	4/22/2022
	4/28/2022
	5/5/2022
	5/12/2022
	5/18/2022
	5/25/2022
coho	01/14/00
	11/10/21
	11/17/21
	11/23/21
	12/01/21
	12/08/21
chum	11/23/2021

2,021 Salt

Date	bags	weight	cumulative
2-Aug	30	1,500	1,500
4-Aug	30	1,500	3,000
6-Aug	30	1,500	4,500
9-Aug	30	1,500	6,000
11-Aug	30	1,500	7,500
13-Aug	32	1,600	9,100
16-Aug	30	1,500	10,600
18-Aug	30	1,500	12,100
20-Aug	30	1,500	13,600
23-Aug	30	1,500	15,100
25-Aug	30	1,500	16,600
27-Aug	30	1,500	18,100
30-Aug	10	500	18,600
1-Sep	10	500	19,100
8-Sep	10	500	19,600
9-Sep	4	200	19,800
11-Sep	10	500	20,300
20-Sep	10	500	20,800
22-Sep	4	200	21,000
24-Sep	4	200	21,200
26-Sep	4	200	21,400
1-Oct	4	200	21,600
2-Oct	2	100	21,700
3-Oct	4	200	21,900
14-Oct	4	200	22,100
22-Oct	4	200	22,300
26-Oct	4	200	22,500
	total lbs salt		22,500

2021	iodophor max concentration		updated 1/11/21	
	Number Spawn Days	Number of Incs Green Eggs		
Steelhead	6	26		
Coho	6	217		
Chum	1	2		3.785
Total	13	245		
			ml iodophore/inc	75
			total iodophor	18375 ml
				18.375 L
				4.85469 gallons
Max discharge	ml iodophor/inc	#incs discharging at once		
	75	77	5775 ml	
			634,879.96000000	gallons in the system
			1.52575958	gallons iodophore
	1	to	416,107.47161905	
		ppm	2.40322529	
	10	% iodine	0.24032253	max concentration iodine ppm

Maximum % of discharge treated

15	gpm treated incubation water
3,750	gpm facility flow
5,400,000	gallon/day facility flow
0.400	Maximum % of discharge treated

inc volume	2.6	gallons
	200.2	gallons water treated/ treatment
	757.757	liters water treated/treatment

2021 **Salt**

Date	bags	weight	cumulative	units
2-Aug	30	1,500	1,500	pond 1,3,4
4-Aug	30	1,500	3,000	pond 1,3,4
6-Aug	30	1,500	4,500	pond 1,3,4
9-Aug	30	1,500	6,000	pond 1,3,4
11-Aug	30	1,500	7,500	pond 1,3,4
13-Aug	32	1,600	9,100	pond 1,3,4
16-Aug	30	1,500	10,600	pond 1,3,4
18-Aug	30	1,500	12,100	pond 1,3,4
20-Aug	30	1,500	13,600	pond 1,3,4
23-Aug	30	1,500	15,100	pond 1,3,4
25-Aug	30	1,500	16,600	pond 1,3,4
27-Aug	30	1,500	18,100	pond 1,3,4
30-Aug	10	500	18,600	T 7-10
1-Sep	10	500	19,100	T 7-10
8-Sep	10	500	19,600	T 7-10
9-Sep	4	200	19,800	T 7-10
11-Sep	10	500	20,300	T 7-10
20-Sep	10	500	20,800	T 7-10
22-Sep	4	200	21,000	T 7-10
24-Sep	4	200	21,200	T 7-10
26-Sep	4	200	21,400	T 7-10
1-Oct	4	200	21,600	T 7-10
2-Oct	2	100	21,700	T 7-10
3-Oct	4	200	21,900	T 7-10
14-Oct	4	200	22,100	T 7-10
22-Oct	4	200	22,300	T 7-10
26-Oct	4	200	22,500	RW 2-5
	total lbs salt		22,500	

	Ponds 1,3,4	
Tank Volume	507,171	gallons
Flow	3,750	gpm
Time	12	hours
facility flow	7,750	gpm
	11,160,000	
max daily volume of treated water	5,400,000	

Salt

Facility flow	7,750.00	gpm
Facility flow	11,160,000.00	gpd
Tank Volume L	1,919,642.24	
Unit Flow gpm	3,750.00	
Unit flow L/min	14,193.75	
Duration Min	720	
Concentration	0.193548387	pound per gpm
Amount added initially	1,500	pounds
Amount during treatment	0	ml/minute
Total product needed	1,500	pounds
Max effluent solution	0.000269	pounds/gallon water
Max daily volume of water treated	2,700,000.00	
Max effluent active ingredient	0.000269	
Minimum volume of total discharge	5,580,000.00	
Maximum % of facility discharge treated	48%	